

Area-specific gender gap in daily movements in Japan using mobile spatial data

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The current project has three goals: 1) to measure a gender gap in daily movements, 2) to illustrate its geographical variation across small areas, and 3) to investigate what factors are associated with such variation. We utilize mobile spatial data collected by NTT Docomo, the largest mobile phone company in Japan. The dataset contains hourly estimated population counts in areas of 500m square across Japan in 2019, separated by gender and age group. We are interested in daily movements that are work-related. Therefore, our focus is on data of weekdays (i.e., working days), the population aged 30-40 years (i.e., childbearing ages), and urban residential areas (i.e., the areas that have a significantly fewer population in the daytime than night-time). Our preliminary results on data of Yokohama (one of the largest cities in Greater Tokyo Area) show that on average, males compared to females are A) more likely to leave their home area (in 500m square) in the daytime, B) return to their home area later in the evening, and C) not at their home area for a longer duration. The findings imply gendered work styles in Japan: males leave their home area more than females potentially due to longer times they spend commuting, working, and gathering with colleagues after work. In the next step of this project, we will further investigate the correlates of geographical variations found in the patterns of the gender gap. Such analysis will have implications for policymakers to achieve a gender-equal community, which Japan has been struggling to build in recent years.

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